Windows 7

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ENHANCED
EXPERIENCE

ULTIMATE PERFORMANCE TO UNLEASH YOUR FULL POTENTIAL.

From Lenovo's exceptional engineers comes the next generation of ThinkStation®, designed exclusively for specialized professionals using graphically and computationally intensive applications. Its groundbreaking design ramps up parallel workflows, enabling professional users to quickly bring their ideas to life.

Equipped with the latest technology from Intel®, the ThinkStation delivers performance that is simply unattainable with a standard desktop PC. The ThinkStation S20 and D20's powerful and efficient Intel® Xeon® processors speed through even the toughest workloads. Sporting up to eight powerful processing cores, the new ThinkStation comes fully equipped with an on-chip memory controller and Intel® QuickPath Interconnect, allowing you to innovate faster than ever before.

The Lenovo ThinkStation has an environmentally conscious, user-centric design that ultimately results in increased productivity. In addition, the performance and quality-focused Lenovo ThinkStation supports ThinkVantage® Technologies such as Rescue and Recovery® and Client Security Solution, providing users with superior data security.

EXTREME PERFORMANCE

- Brand-new Intel® Xeon® CPUs on both S and D series workstations deliver unmatched performance with incredible efficiency
- ThinkStation workstations come armed with a full line of bleeding-edge graphics technologies, including the NVIDIA® QUADRO® line, supporting SLI on select D Series configurations
- With up to a 1060W power supply on the D series, ThinkStation delivers all the juice your key components need to maintain peak performance

QUIET AND RELIABLE

- The ThinkStation's 24db idle operating noise level makes it nearly undetectable
- ThinkStation's unique thermal design is engineered for maximum cool air delivery to key components, reducing the risk of hardware failure

ENVIRONMENTALLY RESPONSIBLE

- Both the S20 and D20 are EPEAT® GOLD, GREENGUARD® Certified
- The ThinkStation S20 and D20 contain more than 50% recycled plastics, including 26% post-consumer content
- 80 Plus Bronze certified power supply
- Many ThinkStation models are Energy Star® 5.0 compliant

ENGINEERED FOR THE ULTIMATE USER EXPERIENCE

- The ThinkStation's secure premium cover latch makes the cover easily removable, allowing users to make instant upgrades
- The ThinkStation's illuminated front panel and icons make ports easily accessible, especially in studio and office environments
- The ThinkStation's ergonomically designed, removable handle makes it easy to carry, move and manage
- Rack implementation is possible both in the ThinkStation S20 and the ThinkStation D20

LENOVO ENHANCED EXPERIENCE FOR WINDOWS® 7. FAST. SECURE. BUILT FOR BUSINESS.

Discover a better way of doing business with the new Lenovo Enhanced Experience for Windows® 7 on Think-branded PCs. Faster, more durable and greener Think-branded PCs are optimized for Windows® 7 to deliver improved ease of use. It enhances productivity and foolproof security that your business cannot do without.

THE LENOVO® THINKSTATION® S20 & D20

TOP REASONS TO OWN

- THE ULTIMATE USER-FRIENDLY WORKSTATION EXPERIENCE
- PERFORMANCE THAT TAKES EXTREME SPEED AND EFFICIENCY TO NEW LEVELS
- COOL AND QUIET
- POWER AND EXPANDABILITY THAT'S UNATTAINABLE ON A DESKTOP PC
- TESTED AND CERTIFIED BY ISVs

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THERE'S MORE THINKING IN A ThinkStation

Windows®. Life without Walls™.
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CUTTING-EDGE POWER.

THINKSTATION® S20 & D20

The ThinkStation is a high performance, high quality workstation designed to run graphically and computationally intensive applications for professional users who require a level of performance unattainable with a standard desktop PC.

TWO WAYS TO INNOVATE

- All Lenovo ThinkStation workstations share common features that showcase Lenovo's dedication to quality, including quiet acoustics, a cool thermal design, RAID standard, back-lit front I/Os and tool-less upgrades. Both the S20 and D20 also feature unique qualities that make them a great match for your individual needs

- The single-processor Intel® Xeon® ThinkStation S20 is the ideal mid-range workstation solution. Offering a robust 625W power supply, even the S20 allows for easy upgrades and offers support for two high-end powered graphics adapters. It is ideal for 2D digital content creators and users of mid-range CAD and EDA applications

- The dual-processor Intel® Xeon® ThinkStation D20 is a computational powerhouse. Offering 12 DIMM slots and RDIMM technology, the D20 supports up to 192GB* of blazing-fast DDR3 memory and is perfect for users of memory and CPU-hungry applications like high-end CAD/CAM/CAE, 3D digital content creation and professional video editing software. The D20 also offers 1394 and SAS support standard, support for NVIDIA's Tesla™ C1060 GPU computing solution and NVIDIA® SLI on select Quadro® cards, as well as more expandability options than the S Series

* Pending availability of 16GB DIMMs

TESTED AND CERTIFIED BY ISVs

Lenovo is working closely with leading software partners — such as Autodesk®, Dassault Systèmes® and PTC® — to ensure optimum performance and stability in the demanding applications you use every day. Independent Software Vendors (ISVs) test and certify system and application compatibility, providing you the assurance of a robust and reliable platform.

LEADING INTEL® TECHNOLOGIES

The new performance-driven Intel® Xeon® micro architecture utilizes Intel's new 45nm technology for energy-efficient, multi-core processing.

- More instructions per clock and improved caching
- Dynamic Power Management for less energy consumption during periods of low utilization
- Intel® Turbo Boost technology for additional performance during peak processing

Additionally, Intel's newest Xeon® processors deliver world class performance combined with superior energy efficiency through a large latency decrease and a bandwidth increase over previous generation workstations.

THERE'S MORE THINKING IN A **ThinkStation**®

THINKSTATION® S20/D20 WORKSTATION SPECIFICATIONS AND SERVICES

THINKSTATION S20

Dual Core:
- Intel® Xeon® Processor E5503 - 2.00GHz - 4.8 GT/s QPI, 4MB Cache, 80W

Quad Core:
- Intel® Xeon® Processor W3530 - 2.80 GHz - 4.8 GT/s QPI, 8MB Cache, Turbo, HT, 130W
- Intel® Xeon® Processor W3550 - 3.06 GHz - 4.8 GT/s QPI, 8MB Cache, Turbo, HT, 130W
- Intel® Xeon® Processor W3565 - 3.20 GHz - 4.8 GT/s QPI, 8MB Cache, Turbo, HT, 130W
- Intel® Xeon® Processor X5677 - 3.46 GHz - 6.4 GT/s QPI, 12MB Cache, Turbo, HT, 130W

Six Core:
- Intel® Xeon® Processor W3680 - 3.33 GHz - 6.4 GT/s QPI, 12MB Cache, Turbo, HT, 130W

THINKSTATION D20

Dual Core:
- Intel® Xeon® Processor E5503 - 2.00 GHz - 4.8 GT/s QPI, 4MB Cache, 80W

Quad Core:
- Intel® Xeon® Processor E5506 - 2.13 GHz - 4.8 GT/s QPI, 4MB Cache, 80W
- Intel® Xeon® Processor E5507 - 2.26 GHz - 4.8 GT/s QPI, 4MB Cache, 80W
- Intel® Xeon® Processor E5620 - 2.40 GHz - 5.86 GT/s QPI, 12MB Cache, Turbo, HT, 80W
- Intel® Xeon® Processor E5630 - 2.53 GHz - 5.86 GT/s QPI, 12MB Cache, Turbo, HT, 80W
- Intel® Xeon® Processor E5640 - 2.66 GHz - 5.86 GT/s QPI, 12MB Cache, Turbo, HT, 80W
- Intel® Xeon® Processor X5667 - 3.06 GHz - 6.4 GT/s QPI, 12MB Cache, Turbo, HT, 95W

Six Core:
- Intel® Xeon® Processor X5650 - 2.66 GHz - 6.4 GT/s QPI, 12MB Cache, Turbo, HT, 95W
- Intel® Xeon® Processor X5660 - 2.80 GHz - 6.4 GT/s QPI, 12MB Cache, Turbo, HT, 95W
- Intel® Xeon® Processor X5670 - 2.93 GHz - 6.4 GT/s QPI, 12MB Cache, Turbo, HT, 95W
- Intel® Xeon® Processor X5680 - 3.33 GHz - 6.4 GT/s QPI, 12MB Cache, Turbo, HT, 130W

THERE'S MORE THINKING IN A ThinkStation

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THINKSTATION® S20/D20 WORKSTATION SPECIFICATIONS AND SERVICES

DESCRIPTION			S20	D20
Operating Systems	**Available Preloads**		• Genuine Windows® 7 Professional 64	
	Supported		• Genuine Windows Vista® Business 32 • Genuine Windows Vista® Business 64 • Genuine Windows® XP Professional • Genuine Windows® XP x64 Edition • Red Hat® Enterprise Linux® 5 64	
Graphics	**From NVIDIA®**	**2D**	• NVIDIA® Quadro® NVS290 - 256MB • NVIDIA® Quadro® NVS295 - 256MB	
		Entry 3D	• NVIDIA® Quadro® FX380 - 256MB • NVIDIA® Quadro® FX580 - 512MB	
		Midrange 3D	• NVIDIA® Quadro® FX1800 - 768MB	
		High-End 3D	• NVIDIA® Quadro® FX3800 - 1GB	
		Extreme 3D	• NVIDIA® Quadro® FX4800 - 1.5GB (Available in SLI)	
			Any combination of two NVIDIA® cards is supported. Mixing of NVIDIA® cards is not supported	
Hard Disk Drives			• **SATA 7200rpm 3.5":** remove 750GB • **SATA SSD MLC 1.8":** 128GB, 256MB • Motherboard • **Maximum Memory (S20):** 24GB	
			*Adapter card required for SAS on ThinkStation S20	
Optical Drives			• DVD-ROM • DVD +/- RW DL • Blu-ray™ Disc Burner	
Physical	**Chassis Form Factor**		• Mid-Tower	• Tower
	Dimensions (without handle)		• 426 x 175 x 483mm	• 434 x 210 x 602mm
	Weight (typical config.)		• ~15 kg	• ~25kg
	Internal Speaker		• Standard	
	Rack Mounting		• Via rack shelf	• Via shelf or optional rail kit
Slots/Bays	**Gen 2 PCIe x16 Slots**		• 2	
	PCIe x 4 Slots		• 1 (x16 physical)	
	PCIe x 1 Slots		• 1	
	PCI Slots		• 1	• 2
	3.5" Internal Bays		• 3	• 5
	3.5" External Bays		• 1	
	5.25" External Bays		• 2	• 3

THERE'S MORE THINKING IN A ThinkStation®

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THINKSTATION® S20/D20 WORKSTATION SPECIFICATIONS AND SERVICES

DESCRIPTION		S20	D20
Motherboard	**Chipset**	• Intel® X58	• Intel® 5520
	Form Factor	• Full ATX	• Extended ATX
	Ethernet	• Broadcom 5755	• 1x Broadcom 5755 plus 1x Broadcom 5754
	SATA/SAS Connectors	• 1 eSATA, 5 SATA Gen 2	• 1 eSATA, 5 SATA Gen 2, 5 SAS
	Memory Type	• DDR3 ECC UDIMM	• DDR3 ECC UDIMM and DDR3 RDIMM
	Memory Speed	• Up to 1333MHz	• Up to 1333MHz
	DIMM Slots	• 6	• 12
	Maximum Memory	• 12GB	• 192GB*
Power Supply	**Wattage**	• 625W	• 1060W
	Efficiency	• 85%+	
	Rating	• 100-127/200-240V 8/4A	• 100-127/200-240V 12/6A
Environmental	**EPEAT® Rating**	• Gold	
	Energy Star® 5.0	• Select Models	
	RoHS Compliant	• Yes	
	Total Recycled Plastic Content	• 50%	
	Post Consumer Recycled Content	• ~26%	• ~27%
	GREENGUARD® Certified	• Yes	
Front I/O	**Back-lit Icons**	• Yes	
	IEEE 1394	• No	• Standard 6-pin
	Memory Card Reader	• 20-in-1	
	Analog Audio	• Stereo, Mic	
Rear I/O	**Serial**	• 1 (2nd Optional)	
	Ethernet	• Gigabit (RJ45)	• 2x Gigabit (RJ45)
	IEEE 1394	• Optional via Card	• Standard 6-pin
	USB	• 8	
	Analog Audio	• 6 Connectors for 7.1 HD Audio	
	eSATA	• 1	
	Digital Audio	• 1 Optical In, 1 Optical Out	
			*Pending availability of 16GB DIMMs

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THINKSTATION® S20/D20 WORKSTATION ACCESSORIES AND OPTIONS

	THINKSTATION S20	THINKSTATION D20
LENOVO® THINKVISION® L2440P WIDE MONITOR (4420-HB2) The L2440p is a champion for the environment, meeting the new ENERGY STAR 5.0 and EPEAT Gold certifications. Wide LCD supporting 1920x1200 WUXGA with full HD. 92% colour gamut for displaying vibrant colours. Analog and digital input. Tilt, swivel, and height-adjustable stand for optimum viewing comfort. *www.lenovo.com/thinkvision; www.lenovo.com/support/monitoraccessories*		
GRAPHIC ADAPTERS Full range of graphic cards, from 2D business graphics to 3D ultra-high CAD and Digital Content Creation. **(43R1765)** NVIDIA® Quadro® NVS 290 Dual Digital or Dual Analog **(45K1670)** NVIDIA® Quadro® FX 380 Dual DVI-I **(45K1672)** NVIDIA® Quadro® FX 1800 Dual DisplayPort, DVI-I **(45K1674)** NVIDIA® Quadro® FX 4800 Dual DisplayPort, DVI-I, Stereo *www.lenovo.com/support/graphiccards*		**(45K1669)** NVIDIA® Quadro® NVS 295 Dual-DisplayPort **(45K1671)** NVIDIA® Quadro® FX 580 Dual DisplayPort, DVI-I **(45K1673)** NVIDIA® Quadro® FX 3800 Dual DisplayPort, DVI-I, Stereo
WORKSTATION UDIMM MEMORY Adding memory is a cost-effective method to boost system performance and productivity **(45K1670)** PC3-10600 1333MHz DDR3 ECC UDIMM Memory – 1GB **(45K1671)** PC3-10600 1333MHz DDR3 ECC UDIMM Memory – 2GB **(51J0503)** PC3-8500 1066MHz DDR3 ECC UDIMM Memory - 1GB **(51J0504)** PC3-8500 1066MHz DDR3 ECC UDIMM Memory - 2GB		**WORKSTATION UDIMM AND RDIMM MEMORY** Adding memory is a cost-effective method to boost system performance and productivity **(45K1670)** PC3-10600 1333MHz DDR3 ECC UDIMM Memory – 1GB **(45K1671)** PC3-10600 1333MHz DDR3 ECC UDIMM Memory – 2GB **(51J0503)** PC3-8500 1066MHz DDR3 ECC UDIMM Memory – 1GB **(51J0504)** PC3-8500 1066MHz DDR3 ECC UDIMM Memory – 2GB **(43R2034)** PC3-8500 1066MHz DDR3 RDIMM Memory – 1GB **(43R2035)** PC3-8500 1066MHz DDR3 RDIMM Memory – 2GB **(43R2036)** PC3-8500 1066MHz DDR3 RDIMM Memory – 4GB **(43R2037)** PC3-8500 1066MHz DDR3 RDIMM Memory – 8GB
STORAGE Expand hard disk drive capacity and store more data **(41N3015)** Lenovo 250GB 7200 rpm Serial ATA Hard Drive **(43R1991)** Lenovo 750GB 7200 rpm Serial ATA Hard Drive **(43R2030)** Lenovo 150GB 10K rpm Serial ATA Hard Drive **(43R1993)** ThinkStation 146GB 15K rpm SAS Hard Drive Mixing of Serial ATA and SAS Hard drives is not supported. Most S-Series models are configured with Serial ATA Hard Drives and most D-Series models are configured with SAS Hard Drives.		**(43R1990)** Lenovo 500GB 7200 rpm Serial ATA Hard Drive **(45J7918)** Lenovo 1TB 7200 rpm Serial ATA Hard Drive **(43R2031)** Lenovo 300GB 10K rpm Serial ATA Hard Drive **(43R1994)** ThinkStation 300GB 15K rpm SAS Hard Drive
LENOVO® MEMORY KEYS Easily carry data with you between systems. A slim design allows space for other USB devices to be installed in adjoining USB ports. **(41U5120)** Lenovo USB 2.0 Security Memory Key – 4GB **(45J5918)** Lenovo USB Ultra Secure Memory Key – 8GB		**(45J5917)** Lenovo USB Ultra Secure Memory Key – 4GB **(45K1258)** Lenovo USB 2.0 Essential Memory Key - 32GB
		INTEL® XEON® PROCESSORS Elite performance; add a 2nd processor to ThinkStation D20 **(43R2038)** Intel® Xeon® Processor E5520: 2.26GHz, 1066MHz, 8MBL2 **(43R2039)** Intel® Xeon® Processor E5530: 2.40GHz, 1066MHz, 8MBL2 **(43R2040)** Intel® Xeon® Processor E5540: 2.53GHz, 1066MHz, 8MBL2 **(43R2042)** Intel® Xeon® Processor X5550: 2.66GHz, 1333MHz, 8MBL2 **(43R2043)** Intel® Xeon® Processor X5560: 2.80GHz, 1333MHz, 8MBL2
		THINKSTATION RAIL KIT **(43R1964)** Easily install the ThinkStation D20 into a rack for data center environments
KENSINGTON TWIN HEAD CABLE LOCK **(45K1620)** Secure ThinkStation® and/or a LCD monitor with a 6-foot (1.8m) steel composite cable with Kevlar brand fiber security cable lock. Meets the SAFE PRO security rating.		

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